said water-soluble inorganic salt is aluminum nitrate, aluminum sulfate, ammonium chloride, ammonium nitrate, ammonium sulfate, barium nitrate, borax, calcium chloride, calcium nitrate, calcium sulfate, diammonium sulfate, disodium phosphate, magnesium chloride, magnesium nitrate, magnesium sulfate, potassium chloride, sodium acetate, sodium carbonate, sodium chloride, sodium metaborate, sodium nitrate, sodium sulfate, trisodium phosphate, zinc chloride, zinc nitrate, or zinc sulfate;

said monomer A is acrylic acid, methacrylic acid, ethacrylic acid, itaconic acid, maleic acid, fumaric acid, monomethyl itaconate, monoethyl itaconate, monobutyl itaconate, monomethyl maleate, monoethyl maleate, [monbutyl] monobutyl maleate, or citraconic acid;

said monomer B is methyl methacrylate, ethyl methacrylate, butyl methacrylate, ethyl acrylate, butyl acrylate, hexyl acrylate, n-octyl acrylate, lauryl methacrylate, 2-ethylhexyl methacrylate, nonyl acrylate, benzyl methacrylate, 2-hydroxyethyl acrylate, 2-hydroxyethyl methacrylate, 2-hydroxypropyl methacrylate, acrylonitrile, methacrylonitrile, acrylamide, methacrylamide, [vinyl,] vinyl acetate, vinyl propionate, vinylidene chloride, vinyl chloride, styrene, t-butyl styrene, ethyl vinyl benzene, vinyl toluene, allyl methacrylate, allyl acrylate, butenyl acrylate, undecenyl acrylate, undecenyl methacrylate, vinyl acrylate, vinyl methacrylate, butadiene, isoprene, ethylene glycol diacrylate, ethylene glycol dimethacrylate, triethylene glycol dimethacrylate, 1,4-butanediol dimethacrylate, 1,3-butanediol dimethacrylate, divinyl benzene, trimethyol propane trimethacrylate, pentaerythritol tetramethacrylate or mixtures thereof; and

said water-insoluble particulate stabilizer is selected from the group consisting of insoluble metal salts, insoluble metal oxides, [oxide,] clays, starches, and sulfonated cross-linked organic homopolymers[, and resinous polymers].

Claim 23, line 10: Please insert -- stabilizer -- after "particulate".

Please add the following new claims:

-- 24. The process according to claim 1, wherein said water-insoluble particulate stabilizer is a resinous polymer.

25. The process according to claim 1, wherein

said water-soluble inorganic salt is aluminum nitrate, aluminum sulfate, ammonium chloride, ammonium nitrate, ammonium sulfate, barium nitrate, borax, calcium chloride, calcium nitrate, calcium sulfate, diammonium sulfate, disodium phosphate, magnesium chloride, magnesium nitrate, magnesium sulfate, potassium chloride, sodium acetate, sodium carbonate, sodium chloride, sodium metaborate, sodium nitrate, sodium sulfate, trisodium phosphate, zinc chloride, zinc nitrate, or zinc sulfate;

said monomer A is acrylic acid, methacrylic acid, ethacrylic acid, itaconic acid, maleic acid, fumaric acid, monomethyl itaconate, monoethyl itaconate, monobutyl itaconate, monomethyl maleate, monoethyl maleate, monobutyl maleate, or citraconic acid;

said monomer B is methyl methacrylate, ethyl methacrylate, butyl methacrylate, ethyl acrylate, butyl acrylate, hexyl acrylate, n-octyl acrylate, lauryl methacrylate, 2-ethylhexyl methacrylate, nonyl acrylate, benzyl methacrylate, 2-hydroxyethyl acrylate, 2-hydroxyethyl methacrylate, 2-hydroxypropyl methacrylate, acrylonitrile, methacrylonitrile, acrylamide, methacrylamide, vinyl acetate, vinyl propionate, vinylidene chloride, vinyl chloride, styrene, t-butyl styrene, ethyl vinyl benzene, vinyl toluene, allyl methacrylate, allyl acrylate, butenyl acrylate, undecenyl acrylate, undecenyl methacrylate, vinyl acrylate, vinyl methacrylate, butadiene, isoprene, ethylene glycol diacrylate, ethylene glycol dimethacrylate, triethylene glycol dimethacrylate, 1,4-butanediol dimethacrylate, 1,3-butanediol dimethacrylate, divinyl benzene, trimethyol propane trimethacrylate, pentaerythritol tetramethacrylate or mixtures thereof; and

said water-insoluble particulate stabilizer is a resinous polymer. --

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REMARKS

Amendments

Page 8 of the specification is amended to provide direct antecedent basis for the subject matter recited in original claim 5. Claim 1 is amended to expressly recite that monomer A is water soluble. See, e.g., page 8, lines 6-18. Claims 5, 13, 15, 16, 22 and 23 are amended in accordance with the Examiners' suggestions at pages 2-3 of the April 11, 2000, Office Action. In addition, new claims 24 and 25 have been added due to the deletion of subject matter from claims 15 and 22.

Rejection Under 35 U.S.C. §112, 2nd Paragraph

By the above amendment, claims 13 and 22 have been amended to delete the typographical error "vinyl". In addition, while it is respectfully submitted that claims 15 and 22 did use proper Markush language, these claims have been amended to recite the type of Markush language suggested by the Examiner. In addition, the typographical error concerning "oxide" has been deleted from claims 15 and 22. Finally, the reference to resinous polymers in claims 15 and 22 has been canceled for the sake of furthering prosecution. It is noted that it is not impermissible for members of a Markush group to overlap with one another. See MPEP §2173.05(h), page 2100-151 (right column).

In view of the above remarks, withdrawal of the rejection under 35 U.S.C. §112, 2nd paragraph, is respectfully requested.

Rejection Under 35 U.S.C. §103

Claims 1-5 and 11-23 are rejected under 35 U.S.C. §103 in view of McNeil (U.S. 5,089,295). This rejection is respectfully traversed.

In the rejection, reference is made to McNeil's disclosure of using monomers in the amount of about 1% to 99%, and further, it is argued that these monomers include carboxylic acid containing monomers. However, it is respectfully submitted that the general listing of monomers by McNeil does not provide sufficient motivation to arrive a monomer system in accordance with applicants' claimed invention.

As recited in applicants' claim 1, ethylenically unsaturated monomers are polymerized and these monomers are present in a dispersed phase suspended in an aqueous phase. Furthermore, the ethylenically unsaturated monomers contain monomers from two different classes, i.e., a water-soluble ethylenically unsaturated monomer containing a carboxylic acid group (monomer A) and a water-insoluble ethylenically unsaturated monomer (monomer B). U.S. '295 does not refer to or discuss the problems associated with suspension polymerization of a dispersed phase within an aqueous phase wherein the monomers of the dispersed phase include water-soluble monomers containing carboxylic acid groups. Similar, U.S. '295 provides no disclosure or suggestion that suspension polymerization of such a monomer system can be performed in a manner whereby the dispersed monomer droplets contain at least 20% of the water-soluble carboxylic acid

containing monomer. Moreover, nothing within the disclosure of U.S. '295 suggests that, in performing suspension polymerization of such a monomer mixture as a dispersed phase, advantageous stabilization can be achieved through the use of a water-soluble particulate stabilizer having a size of less than 100 nm in combination with an effective amount of a water-soluble inorganic salt for thereby allowing formation of stable monomer droplets in the aqueous phase.

It is evident from the overall disclosure of U.S. '295 that there is no suggestion of addressing the concerns of using such a monomer system containing both water-insoluble ethylenically unsaturated monomers and water-soluble ethylenically unsaturated monomers containing a carboxylic acid. In Examples I-IV, the monomers utilized are a mixture of styrene and butadiene or styrene and n-butylmethacrylate. All three of these monomers are water-insoluble ethylenically unsaturated monomers. See, for example, the list of ethylenically unsaturated monomers for monomer B at page 8, lines 19-page 9, line 19, of applicants' specification. Nothing within U.S. '295 provides any suggestion of how to provide for polymerization of a monomer system in accordance with applicants' claims wherein a concentration of at least 20% carboxylic acid monomer in the dispersed droplets is achieved.

In view of the above remarks, it is respectfully submitted that McNeil (U.S. '295) fails to provide sufficient motivation to lead one of ordinary skill in the art to an embodiment in accordance with the claimed process. Thus, it is respectfully submitted now that U.S. '295 fails to render obvious applicants' claimed invention. Withdrawal of the rejection under 35 U.S.C. §103 is respectfully requested.

Respectfully submitted,

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